Funded by the European Union

Project Title:

# Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles

## Acronym: EMPOWER

## Grant Agreement No.: 101096028

Topic: **Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (2ZERO)**

Topic identifier: **HORIZON-CL5-2022-D5-01-08**

Type of action: **Innovation Action (IA)**

| | | |
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| **Deliverable No.** | D8.2 | |
| **Deliverable Title** | First revision of dissemination, exploitation (including IPR), and communication activities | |
| **Deliverable Date** | 2024-06 | |
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**History of Changes**

| Deliverable | Action |
|---|---|
| D8.1 | Initial version of Dissemination, exploitation (including IPR), and communication plan |
| D8.2 | Update of Table 5 in sub-section 3.1 "Scientific Journals and Conferences"<br>Update of Table 6 in sub-section 3.2 "Participation in industry events and selected conferences"<br>Added sub-section 3.4 "Completed scientific dissemination activities"<br>Update of sub-section 4.1 "Project identity and logo"<br>Update of sub-section 4.2.1 "Project website"<br>Update of sub-section 4.2.2 "Social media package"<br>Update of sub-section 4.2.4 "Infographics"<br>Added sub-section 4.2.5 "Videos"<br>Update of Table 12 in sub-section 4.4.1 "Scheduling and management" |

**Publishable Executive Summary**

The present deliverable entitled "First revision of dissemination, exploitation (including IPR), and communication activities" defines the main guidelines and means of the strategy that the EMPOWER project will implement to make its results public as well as to promote project action and results.

The purpose of this deliverable is thereby to outline an inclusive activity aimed to maximize the communication and dissemination of the project, and to:

- define the general strategy of the communication and dissemination activities aiming at defining the purpose of communicating (why) results, news, and other relevant information, alongside with the communication guidelines (how) for all activities performed under the scope of the project.
- define a set of target audiences (who) with corresponding events and/or publications (where) to achieve successful dissemination of the project's results. Each type of audience will be reached via a preferential channel. Contained in this document are the major events, publications, conferences and social media platforms through which the EMPOWER consortium seeks to promote the project and its results.
- present the logo identity. Writing, references and disclaimer rules are also presented to ensure all communication messages are coherent and appropriately acknowledge the EU funding instruments.
- designate the guidelines, procedures and criteria that will be applied in order to plan, monitor, record and evaluate all dissemination and communication activities.
- present the guidelines for ensuring high quality in all publications and dissemination materials.
- Summarise completed and ongoing dissemination and communication activities

Via those means the consortium foresees to promote the concept and results of the EMPOWER project towards selected stakeholders, such as the research and scientific community, the industry, the EC and relevant research projects, a wider public and end-users.

A preliminary exploitation strategy of the project results is also outlined, including IPR, to support the European economic growth and provide a solid base for new business opportunities.

These plans constitute an internal instrument that aim to provide a consistent framework for all activities needed to be made public and sustain the concepts, achievements, technical and knowledge results developed within the project, as well as to make specific use of them. It will be constantly evaluated and revised during the project duration.

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## Abbreviations and Nomenclature

Table 1: List of Abbreviations and Nomenclature

| Symbol or Short name | Description |
|---|---|
| **CA** | Consortium Agreement |
| **DoA** | Descriptions of Actions |
| **EC** | European Commission |
| **ER** | Exploitable Results |
| **GA** | Grant Agreement |
| **HDV** | Heavy Duty Vehicle |
| **HE** | Horizon Europe |
| **IP** | Intellectual Property |
| **IPR** | Intellectual Property Rights |
| **KPI** | Key Performance Indicator |
| **SMS** | Social Media Strategy |
| **WP** | Workpackage |
| **ZE** | Zero Emission |

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# 1 Introduction

The present deliverable is prepared in the context of Work Package 8 "Dissemination, communication, and exploitation" and is associated with Task 8.1 "Scientific dissemination" and Task 8.2 "Communication towards non-specialist stakeholders and public outreach activities". WP8 is a vertical component within the project work plan. It aims at supervising the integrity and consistency of all dissemination efforts for creating awareness on all the EMPOWER stakeholders, as well as investors, policy makers, scientific/research communities, and public.

The First revision of dissemination, exploitation (including IPR), and communication activities is the core document that (a) outlines the project's dissemination, exploitation, and communication activities and (b) enables a good coordination of these activities [1] [2] and summarizes the ongoing and completed dissemination and communication activities. Aim of the document is the definition of the means to be used for disseminating the results among the main identified stakeholders and the description the overall EMPOWER communication strategy.

This deliverable will identify the relevant target groups, suitable tools, and channels, as well as appropriate events to share the EMPOWER results with the scientific/technical community.

Scientific dissemination will take place by means of papers in peer-reviewed journals and conference proceedings, with participation at relevant conferences and meetings events. Coordination of the scientific dissemination activities will also leverage the services offered by the EC (e.g., publication in the Open Research Europe and/or Common Dissemination Booster). The dissemination activities will strictly adhere to the Open Access policy in force in Horizon Europe.

The communication towards non-specialist stakeholders and public outreach will also be addressed. The communication plan will identify the non-specialist target groups and recipients, as well as the suitable communication tools and channels to address the public. The deliverable will also present:

- the generation of a project logo, visual identity, graphical elements, infographics, and project document templates;
- the publication of a project website, featuring all the relevant EMPOWER information, objectives, project structure, publications, and partner info;
- the implementation of a Social Media Strategy (SMS) addressing the public, geared on a synergetic use of LinkedIn and ResearchGate;
- the creation of communication material including: a project brochure, a project communication video, in-focus technical interviews with WP leaders
- themed workshops with target groups to explain the best practice elements of the project along with critical elements that allow for successful commercialisation of zero emission HDVs.

This Dissemination, exploitation, and communication plan specifically aims to:

- outline the main objectives of the dissemination actions;
- identify the target audiences for each dissemination objective;
- define the tools and channels to be used and the activities required to reach targeted audience groups;
- identify the dissemination KPIs, useful to measure the effectiveness and efficiency of the activities conducted;
- define how the dissemination activities will be administered.

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## 1.1 Goals and objectives

The main purpose of the dissemination and communication strategy is to formalise and plan all the activities that can make the project results public and that can promote and communicate EMPOWER activities and results. A preliminary strategy to make concrete use of the project results is also outlined, including IPR, to support the European economic growth and provide a solid base for new business opportunities.

The strategy will set out the main tools for these purposes, and to provide guidelines on the overall approach among the partners. The first objective of this strategy is to engage the target audience, identify target groups and analyse their needs in terms of dissemination, by consolidating the network with the incorporation of supporting experts and institutions. This means that dissemination and communication is not targeting only scientists but also the other groups that can learn from the results: authorities, industry, policymakers, sectors of interest, civil society.

The EMPOWER approach will aim at engaging the target groups in a 4-fold way:

- awareness: ensuring that the project, its scope, and its activities are well-known to potential future users and clients, industrial and scientific communities, and the public;
- understanding: diffusing the knowledge produced by the project to other actors and players;
- engagement: encouraging the active participation of external parties in project activities, providing fruitful feedback on project direction and findings; and
- acting: transferring the technology produced by the project to other actors and players of the market, and allowing interested parties to validate the project results, as well as producing EMPOWER-inspired solutions.

The expected results of the EMPOWER approach are summarized in Table 2.

Table 2: Expected results of communication and dissemination approach

| | **Expected result** | **Target Engagement** |
|---|---|---|
| **1** | Key stakeholders provide relevant feedbacks to the EMPOWER project on a regular basis | Through project workshops |
| **2** | Target audience network grows steadily throughout the project | Through online campaigns (e.g., newsletters and social networks) & beneficiary contact networks that will be ad hoc mobilised where applicable and useful |
| **3** | Comprehensive information about the project and its results available | Through the project website, dissemination tools and regular project updates |

The impact of the activities will be measured considering:

- The participation of stakeholders in the project workshops;
- The high number of followers to project social media channels;
- The visits to the project website, views of press releases, material downloads, etc.,
- Specific KPIs for scientific dissemination (see section 3.3).

The dissemination, exploitation, and communication plan is intended to be a live document, which will continuously be enriched with the forthcoming project's achievements and contributions from partners. The following sections describe the activities that we plan to carry out to reach the abovementioned objectives.

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# 2 Dissemination and Communication strategies

## 2.1 Objectives

To ensure that the EMPOWER results are made public, promoted, and communicated according to the expectations of all members of the consortium, strategic objectives for all dissemination and communication activities have been identified and are presented below. These objectives are:

- To ensure that target audiences are convinced that more results have been achieved than otherwise possible, as a result of European collaboration on the EMPOWER project;
- To demonstrate how the outcomes of the EMPOWER project are relevant to the everyday lives of a growing cohort of European citizens;
- To assure, where possible, that the results of the EMPOWER project influence policy makers and also decision makers in industry and the scientific community to ensure the long-term impact of the project;
- To ensure that all communication produced is engaging and interesting to the target audience.

In short, the main and general objectives are:

- building and strengthening the EMPOWER identity and consolidate its image in a well-known, visible and recognisable successful brand;
- influencing different targets: public opinion on one side, as well as decision and policy makers on the other side, involving audiences as institutions, authorities, providers, and planners.

## 2.2 General guidelines

A set of basic rules need to be followed by each dissemination and communication action. The guidelines are presented below:

- To ensure that all legal, ethical and privacy criteria are being considered and met;
- To comply with the project's procedures, scope, objectives according to contractual documents;
- To respect the Grant Agreement (GA), Description of Action (DoA) and Consortium Agreement (CA);
- To guarantee the proper use of the funding for maximum efficiency, to demonstrate value for money for all dissemination and communication activities conducted;
- To use the official project material in presentations;
- To avoid publication of restricted and/or commercial data and to ensure that all the necessary procedures prior any publication have been followed;
- To make sure confidentiality is preserved;
- To create a responsive and adequate activity addressing the appropriate target audience;
- To avoid the repeated publication of the same work;
- To avoid publication of one's work without proper referencing;
- To guarantee proper referencing and archiving of all dissemination and communication material.

These rules serve as guidelines for all WP8 activities and should be verified before any outreach by the beneficiary responsible for the given outreach activity.

## 2.3 The elementary actions

The communication and dissemination activities as well as the preparation of the entire plan, will follow the following steps:

- Gather the EMPOWER dissemination and communications needs;
- Identify the targets to be reached and their peculiar aspects;
- Coordinate the vision and the corporate image of the project in its complexity;

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- Elaborate tailor-made key messages for targeted audiences pointing out positive values and the EMPOWER major points;
- Analyse the best strategies to enhance the campaign effectiveness;
- Define the sub-objectives;
- Identify media and channels to spread out the campaign and reach each segment and sub-segments;
- Identify more effective tools, to reach the EMPOWER dissemination and communication aims.

### 2.4 The aim of dissemination and communication

The first question to clarify in this document is "Why EMPOWER wants to communicate?", to be able to drive all the following activities with a clear purpose in mind.

The multiple communication objectives are based on the strategic objectives and are summarized below:

- Convince the target audiences that the EMPOWER project is a powerful key-enabler for achieving scientific excellence, contributing to competitiveness and solving important societal challenges;
- Demonstrate how the outcomes of the EMPOWER project are relevant for a growing cohort of European stakeholders by creating jobs, introducing novel technologies, promoting a carbon free logistics and improving lives of European citizens;
- Where possible, make sure that the results of the EMPOWER project influence policy makers and decision makers in industry and the scientific community to ensure the long-term impact of the project.

### 2.5 Dissemination and communication content

The answer to the question "What do the EMPOWER partners want to communicate?" is related to the objectives, progress, and derived results of EMPOWER.

Being strictly inherent to the partner that desires to communicate, the specific timeline of the project and the audience, the content of any communication and dissemination action is something that cannot be defined at this stage. Nonetheless, it is important to state that each beneficiary will seek to communicate as widely as possible the results achieved within the project.

### 2.6 Relevant stakeholders

The EMPOWER communication and dissemination strategy aims to reach several categories and the message will be adapted regarding the audience. The main identified categories are:

- Stakeholders & practitioners;
- Scientific community;
- European Commission;
- Public;
- EMPOWER ecosystem

Over the course of the project and based on feedback of our communication, the categories could be refined to better adapt communication if needed.

Table 3 identifies the communication means expected to have better impact with respect to the targeted stakeholders.

Table 3: Targeted stakeholders

| Stakeholder | Communication Means |
|---|---|
| **Practitioners & stakeholders** | Workshops, booths, printed communication, EMPOWER community building |

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| | |
|---|---|
| **Scientific community** | Scientific articles, journals and posters, scientific conferences |
| **European commission** | Printed communication |
| **Public** | Web site and online presence, printed media, multimedia content |
| **Ecosystem** | Workshops and printed communication |

## 2.7 Approach for dissemination and communication

The EMPOWER Dissemination, exploitation, and communication plan will ensure its effectiveness by appropriately tailoring the communicated messages and the associated communication channels according to the specific target groups, defining objectives and quantifiable indicators, and continuously monitoring the results, introducing amendments and adjustments if required.

A wide range of traditional and innovative communication channels ensures that the messages will be communicated to each target group according to its peculiar values, beliefs, interests and needs.

The dissemination approach is measurable and traceable because KPIs are used to track the dissemination progress. The overall process followed towards development of a detailed dissemination & communication strategy has been to:

- Identify the audience groups;
- Consider the needs of the audience groups;
- Develop specially calibrated per case message that clearly addresses the needs of each target audience group;
- Assess and improve the dissemination activities. EMPOWER focused on the following types of dissemination:
- Scientific Dissemination by spreading directly and presenting the aim of the project;
- Dissemination and Communication towards non-specialist stakeholders and public outreach: this includes web-based actions (by creating the project web site) as wells as event participation (by monitoring and participating to the most important events related to the purposes of EMPOWER).

## 2.8 Dissemination and communication activities

A variety of means and activities are scheduled to make the concepts and the results of EMPOWER public as well as to inform multiple audience, promote and communicate activities and results:

- Events Participation:
  - Project specific workshop(s) organisation;
  - Conferences and Workshops participation;
  - Fair trades/Exhibitions participation;
- Web Dissemination:
  - Creating the web site and the social media channels;
- Paper dissemination:
  - creating brochures, posters, and leaflets;
- Media Dissemination:
  - writing, editing and spreading press releases;
- Scientific Dissemination:
  - Scientific papers and publications;
  - Posters, others;
- Collaboration activities:
  - Clustering with related research projects.

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A matrix of the dissemination mechanisms/activities used in EMPOWER, related with the respective objectives and targeted groups is presented in Table 4.

Table 4: Dissemination mechanisms

| Dissemination mechanisms | Objective | Targeted Stakeholders | Timeline |
|---|---|---|---|
| **Events' Based Dissemination:** | | | |
| **Project specific workshop(s) organization** | Consultation, brainstorming, discussion, and validation of EMPOWER draft results | • EC and relevant research projects<br>• Researchers and academic communities<br>• Industry | As appropriate, based on project phases and results |
| **Conferences and Workshops participation** | • Awareness creation<br>• Engagement of a wider academic & industrial community<br>• Methodology Presentation/Validation<br>• Networking and Collaboration with the relevant stakeholders/other Projects | • All stakeholders | Constantly |
| **Fair trades/Exhibitions participation/ Demonstration activities** | • Awareness creation<br>• Engagement of a wider industrial community<br>• EMPOWER solution Demonstration | • Industry | As appropriate, based on project phases and results |
| **Project specific workshop(s) organization** | Consultation, brainstorming, discussion, and validation of EMPOWER draft results | • EC and relevant research projects<br>• Researchers and academic communities<br>• Industry | As appropriate, based on project phases and results |
| **Web - Based Dissemination:** | | | |
| **Project website** | • Information and knowledge diffusion<br>• Results presentation | • All stakeholders (especially the public) | Constantly |
| **Social Media package** | • Awareness creation<br>• Knowledge diffusion<br>• Results presentation | • All stakeholders (especially the public) | Constantly |
| **e-Bulletin** | • Information and knowledge diffusion<br>• Results presentation | • All stakeholders | Periodically based on project developments |
| **Publishing on external platforms** | • Awareness creation<br>• Knowledge diffusion<br>• Results presentation<br>• Collaboration | • All stakeholders (depending on the platform) | Constantly, as appropriate |
| **Infographics** | • Information and knowledge diffusion<br>• Results presentation | • All stakeholders (especially the public) | As appropriate, based on project outcomes |
| **Videos** | • Awareness creation | • All stakeholders (especially the public) | As appropriate |

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| | | | |
|---|---|---|---|
| | • Information and knowledge diffusion<br>• Results presentation | | |
| **Paper - Based Dissemination:** | | | |
| **Printed dissemination material (brochures, stickers)** | • Awareness creation<br>• Knowledge diffusion<br>• Results presentation | • Public (especially<br>• Industry/enterprises,<br>• Researchers and Academic communities) | As appropriate, based on project developments and results |
| **Publications:** | | | |
| **Scientific papers[1] and publications** | • Knowledge diffusion to the relevant scientific community<br>• Results presentation | • Researchers and Academic communities<br>• Other research projects | As appropriate, based on project phases and results |
| **Press releases** | • Awareness creation<br>• Media and other relevant<br>• "multipliers" engagement | • All stakeholders (especially the public) | Periodically based on project developments and results |
| **Collaboration Activities:** | | | |
| **Collaboration with other initiatives/projects** | • Information and knowledge exchange<br>• Alignment of activities among the relevant projects<br>• Collaboration in dissemination activities | • EC and relevant research projects | As appropriate |

## 3 Scientific dissemination strategy

The involvement of the scientific community is a duty. First, there is the principle to disseminate the products of the research among the Research Community; for this purpose, the chosen dissemination level for many project deliverables is "public". This choice is intended to promote the cooperation and implementation of the project results by external experts with the aim of being able to follow the research development more quickly. Another relevant step is to spread the research products to scholars and academics in general to enforce the interest among students and research teams. Furthermore, scientific publications will be developed by the consortium and the access will be open.

### 3.1 Scientific Journals and Conferences

Publications in scientific journals and conferences relevant to the research and innovation activities will target the scientific communities directly or indirectly in the scope of EMPOWER. They reinforce the project image and brand, cross-fertilise EMPOWER concepts and solutions with state-of-the-art techniques, foster cross-project cooperation and provide a fundamental verification of soundness of project results by means of peer review.

For results approved for dissemination, EMPOWER fully endorses open science practices. EMPOWER strictly adheres to the Open Access publication policy of Horizon Europe by publishing scientific articles such that they are immediately free of charge to end-users for any purpose ("Gold Open Access"). To ensure open access to all peer-reviewed scientific publications, each partner, who is planning to publish an article on a journal or at a peer-reviewed conference, should ensure in advance that the selected journal/conference is compliant with

[1] according to instructions provided for publication in open sources journal

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the EC rules on open access. After this verification, the partner should follow the internal approval process and:

- Contact the leader of WP8 (Dissemination, Communication and Exploitation) and notify them about the plans for publishing an article about the EMPOWER project;
- Check the journal's policy on open access on www.sherpa.ac.uk/romeo/ or a similar project website (e.g., journal website);
- If open access is not granted by the journal, check whether other options are available (e.g., fee payment, license agreement or addendum) and, if not, refrain from publication;
- If open access is permitted, the partner can proceed with the publication (sending a copy of the publication to the consortium 45 days before publication for internal approval).

To facilitate the work of the partners, Table 5 gives a useful, non-exhaustive list of journals that guarantee open access of the articles published.

Table 5: List of potential Journals for scientific publication

| **Journals** |
|---|
| IEEE Transaction on Industry Application |
| IEEE Transaction on Industrial Electronics |
| IEEE Transaction on Vehicular Technology |
| IEEE Industry Applications Magazine |
| IEEE Access |
| SAE Alternative Powertrains |
| SAE International Journal on Engines |
| SAE International Journal of Passenger Cars - Electronic and Electrical Systems |
| SAE International Journal of Sustainable Transportation, Energy, Environment, & Policy |
| Elsevier Transportation Research Interdisciplinary Perspectives |
| Elsevier eTransportation |

## 3.2 Participation in industry events and selected conferences

Complementary means such as organising and/or participating in popular industry events, thematic fora & panels, workshops, roundtables and conference sessions, poster presentations and specialised demonstrations will also be utilised. Table 6 reports a non-exhaustive list of potential events that is continuously updated according to partners' suggestions and already existing event calendars such as the Newsroom Calendar coordinated by the European Union (https://europa.eu/newsroom/events/week_en).

Table 6: List of potential conferences and industrial events

| |
|---|
| TRA2024 |
| TRA2026 |
| EUCAR Conferences |
| EARPA forum |
| EEVC |
| EVS |

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| |
|---|
| Aachen Colloquium “Automobile and Engine Technology” |
| PCIM |
| EPE |
| IEEE sectorial conferences |
| Int. Conf. on Advances in Engineering, Science and Management |
| Events organized by SAE Europe |
| Coiltech |
| SAE WXC 2024, 2025, 2026 |
| Conference on Sustainable Mobility CSM (from 2024 to 2026 editions) |
| ICE 2025 |

For ease of use, a calendar listing of the potential events will be added to the project-internal SharePoint – the internal collaboration platform and kept up to date. The following Table 7 will assist in keeping track of all the events.

Table 7: Tracking event table

| Type of event | Name of event | Date | Location | Initial interest | Participation to event | Project presence | Outcomes |
|---|---|---|---|---|---|---|---|
| Seminar / fair / workshop / other | | | | Partner name | Partner(s) who went to the event | Stand/booth, presentation, roll-up, poster session | Project synergies, new stakeholders, papers published, etc. |

### 3.3 Measuring and evaluating – KPIs

The reach and impact of EMPOWER scientific dissemination activities will be assessed qualitatively and quantitatively and closely monitored using participation statistics, search metrics and other established indicators of media use.

A set of KPIs has been defined to measure the efficiency and effectiveness of dissemination activities carried out, and the measurements are listed according to the activity in Table 8. The list of KPIs can be modified, deleted or new ones added if seen necessary to maximise their effectiveness.

Table 8: Scientific dissemination KPIs

| Dissemination activities | KPI |
|---|---|
| **Technical publication** | □ N° of articles published in the technical literature and dedicated journals or magazines<br>□ N° of scientific papers published in international conferences and dedicated journals<br>□ Estimated numbers of readers of the article |
| **Events, congress, exhibition, and workshops** | □ N° of conferences and industrial events attended by EMPOWER partners<br>□ Estimated number of media releases |

### 3.4 Completed scientific dissemination activities

In the first 18 months of the project, EMPOWER partners presented results of the project or discussed scientific topics fitting with the storyline of this innovation action in 2 meetings and 4 conferences, including the TRA2024. The following **Fehler! Verweisquelle konnte nicht gefunden werden.** provides additional details about the scientific dissemination actions already completed.

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Table 9: Completed scientific dissemination activities

| Type of event | Name of event | Date | Location | Target audience reached | Outcomes |
|---|---|---|---|---|---|
| Meeting | Batteries Europe Plenary Session | June, 7th 2023 | Brussel | Industry, business partner; EU institutions; Research communities | Discussion about how fuel cells and batteries can coexist as complimentary solutions in a multidimensional approach to decarbonize the transport sector fitting with the storyline of EMPOWER |
| Meeting | Mobility Research and Innovation in Switzerland | Sept 12th, 2023 | Biel | Industry, business partner; Regional and Local authorities; Research communities | Presentation of EMPOWER, which served as a powerful reminder of the project's significance in steering society and industry towards a sustainable and environmentally responsible future |
| Conference | MUBIL Mobiity Expo | April, 17th-18th, 2024 | Ficoba (Basque Country) | Industry, business partner; Innovators; Regional and Local authorities; Civil society; Citizens; Research communities; Specific end-user communities | Representation of EMPOWER at this professional meeting point in Southern Europe for the value chain of sustainable mobility understood as clean, accessible, safe and connected |
| Conference | 13th Annual Battery Safety Summit | Nov, 6th-7th, 2023 | Falls Church /VA), US | Industry, business partner; Innovators; Research communities | Presentation of poster entitled "Impedance based thermal runaway early detection for Lithium Ion batteries" by CID dealing with the performance and analysis of thermal runaway tests |
| Conference | Transport & Logistics Munich Fair | May, 9th-12th 2023 | Munich | Industry, business partner; Innovators; Regional and Local authorities; Citizens; Research communities; Specific end-user communities | Presentation of EMPOWER in the session "Zero emission heavy-duty road transport: perspective and innovation testing in real operations" in collaboration with ZEFES and ESCALATE |
| Clustering activity | TRA2024 | April, 15th-18th, 2024 | Dublin | Industry, business partner; Innovators; EU institutions; Civil society; Citizens; Research communities; Specific end-user communities | Participation at the Transport Research Arena 2024 in Dublin and representation of the EMPOWER project results. The dissemination was part of the AVETO Cluster activities. |
| Meeting | Mobility Research and Innovation in Switzerland | Sept 12th, 2023 | Biel | Industry, business partner; Regional and Local authorities; Research communities | Presentation of EMPOWER, which served as a powerful reminder of the project's significance in steering society and industry towards a sustainable and environmentally responsible future |

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In addition, the following scientific dissemination activities are ongoing:

- The paper "Life cycle analysis of a PEM fuel cell system for long-haul heavy-duty trucks", Gentilucci G., Accardo A., and Spessa E., have been tentatively accepted for oral presentation and publication in the SAE proceedings of the 4th Conference on Sustainable Mobility – CSM2024, September 18-20, 2024, Catania, Italy ( https://www.universitacusano.com/csm2024/);
- The paper „Systematic review of Life Cycle Assessment of diesel oil trucks: status and perspectives", Gentilucci G., Accardo A., and Spessa E., has been drafted and is going to be submitted within July 2024 to the interantional journal Transportation Research Interdisciplinary Perspectives;
- The paper „LCA of PEM fuel cell systems: status and assessment of the End-of-Life", Gentilucci G., Accardo A., and Spessa E., is under preparation and will be submitted within 2024 to an international journal, such as Transportation Research Interdisciplinary Perspectives or IEEE Access.

## 4 Communication towards non -specialist stakeholders and public outreach

The communication plan will identify the non-specialist target groups and recipients, as well as the suitable communication tools and channels to address the public. All dissemination materials refer to the project name, the project's website, and Horizon Europe with associated graphic elements in line with the European Commission's guidelines.

### 4.1 Project identity and logo

The core of the project's visual identity is its logo, which effectively captures the essence and key themes of the project.

The EMPOWER logo (Figure 1) showcases a European HDV designed on a modular rhomboidal basis, featuring components such as a hydrogen tank, battery, and electric plug. These four modules form a clover shape that symbolizes the zero-emission nature of EMPOWER. The lettering in the logo is easily identifiable, thanks to a customized font that incorporates redesigned glyphs of the E, M and W into the form of Sigma.

The logo has been generated using multiple iterations. Below we present the final logo of the project with its B/W variation, as well as the Gunmetal and Bluegray variations, accordingly to the colour palette of the EMPOWER project.


Figure 1: EMPOWER project logo

The colour palette is employed on website and in project documents (e.g., deliverables, presentations, etc.). The colour palette (Figure 2) provides the range of colours that may be employed in project communications to ensure a flexible yet consistent visual appearance.


Figure 2: EMPOWER project colour palette

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Finally, a set of icons was designed for identifying the main keywords of the project (Figure 3). These icons are intended to be used on the website, infographics, brochures, and other related materials.

Figure 3: EMPOWER project icon set

### 4.2 Online presence

A dynamic and interactive website, together with social media accounts – particularly LinkedIn (https://www.linkedin.com/company/empower-project-eu) – will be created, maintained, and regularly updated to boost information flow to all entities with an interest in the project. These online means (see Table 10) will also be used to disseminate relevant information to targeted parties.

Publicly available information that will be used for this purpose includes:

- information on the project, its objectives, its challenges and the main results and achievements;
- information about the consortium members and all organisations involved;
- project news (e.g., announcement of project events);
- public deliverables of the project;
- publications, conference proceedings and journal articles;
- links to websites of interest to the project (complementary research, other national and European initiatives relevant to the project).

Additionally, a repository has been created for sharing internal information between the consortium partners and for archiving the project documents.

Table 10: Online communication plan

| Object | Targeted community | Key Performance Indicator | KPI Target Value | Reach level |
|---|---|---|---|---|
| **Project website** | General public, local/regional/national authorities, EC, News Agencies, industrial companies, SMEs, scientific/research community; | Number of visitors, number of returning visits, stay-on-page time, other CEO metrics; | 15k+ visitors over the project life; | International |
| **LinkedIn** | General public, local/regional/national authorities, EC, News Agencies, industrial companies, SMEs, scientific/research community; | Number of subscribers, interactions (e.g. likes, reposts, comments); | 500+ followers; | International |
| **Multimedia content** | General public, local/regional/national authorities, EC, News Agencies, industrial companies, SMEs, scientific/research community; | Number of videos Produced; | One project video, 3 animated project mini-clips, 7 in-focus technical interviews with WP leaders; | International |
| **Newsletter (optional)** | Local/regional/national authorities, EC, News Agencies, | Number of newsletters, | 1 newsletter per year – potentially a joint | International |

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| | | | | |
|---|---|---|---|---|
| | industrial companies, SMEs, scientific/research community | number of subscribers | newsletter as part of a project cluster; | |
| **Print asset** | Local/regional/national authorities, EC, News Agencies, industrial companies, SMEs, scientific/research community | Number of stakeholders reached | 1 brochure, stickers (e.g., with project logo and website URL or QR code, to stick on | International |

### 4.2.1 Project website

The EMPOWER website has been set up (Figure 4) and will be maintained during the project implementation and at last two years after EMPOWER completion. The website provides:

1. General information about the project;
2. All the updates on the project;
3. Information about the partners and their role in the project;
4. All the documents and deliverable produced during the project.

The EMPOWER website has been developed in the month of June and will be regularly updated following the project's development and to ease users' navigation, at the domain https://www.projectempower.eu/. It will also allow interested parties to get in touch with the project coordinators.


Figure 4: EMPOWER website home page

### 4.2.2 Social media package

We selected LinkedIn as the main social for EMPOWER communication, as from previous experience this appears the most effective online tool for reaching most of the target audience.

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Figure 5) is continuously fed with news on the project, updates, as to interact with followers and stakeholder with the aim of engaging a wide discussion about the targeted themes. The members of the project consortium has also been encouraged to leverage the social media of their own organisations (companies, research institutes, etc.) to amplify the messaging of the project.

The selection and use of appropriate hashtags to bring the project to the attention of relevant.


Figure 5: EMPOWER Linkedin page

### 4.2.3 External platforms

Significant project developments and articles introducing EMPOWER will be also published in external portals, including EC platforms.

### 4.2.4 Infographics

The project has created at least two main digital infographics (https://www.linkedin.com/feed/update/urn:li:activity:7181195741149679616; https://www.linkedin.com/feed/update/urn:li:activity:7200805450676662272) and one printed roll-up (see Figure 6) to convey the objectives of the project during the face-to-face meetings and events.

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# EMPOWER

**ECO-OPERATED, MODULAR, HIGHLY EFFICIENT, AND FLEXIBLE MULTI-POWERTRAIN FOR LONG-HAUL HEAVY-DUTY VEHICLES.**

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement no. 101096028.


## About EMPOWER project

Funded by European Commission Horizon Europe framework program through the 2Zero Partnership, EMPOWER stands for "Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles".

The EMPOWER project aims to develop two flexible, modular, and scalable zero-emission heavy-duty vehicles (ZE HDV). One vehicle will be 100% electric for regional deliveries (400 km range), while the other will be a hybrid fuel cell and battery-powered for long-haul distances (750 km range). Both vehicles will undergo a 6-month demonstration at TRL8 on European roads and International corridors, with development led by an experienced consortium of academic and industrial partners from Europe.

## Objectives and ambition

EMPOWER has the ambition of impacting the ZE HDV market, delivering two modular and highly efficient HDV for long-haul (FCEV) and regional distribution (BEV) purposes, fit for the future ZE HDV mass-market.

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Figure 6. EMPOWER Rollup (split in two parts)

### 4.2.5 Videos

The project has produced one main video, showcased during the TRA2024 event in Dublin. The video highlights the goals of the project, the problem-solution approach that EMPOWER seek to pursue, and the partners involved in the project (https://www.linkedin.com/feed/update/urn:li:activity:-7195806682793291777). Additionally, five video-interviews were recorded during the consortium's face-to-face meeting, involving five different partners (AIT, IVECO, LEAD TECH, GRUBER and IIT). Follow the links to the videos already published on LinkedIn.

- ➔ AIT: https://www.linkedin.com/feed/update/urn:li:activity:7196873646135529473
- ➔ IVECO: https://www.linkedin.com/feed/update/urn:li:activity:7199710775031013376
- ➔ LEAD TECH: https://www.linkedin.com/feed/update/urn:li:activity:7202232391153672193
- ➔ GRUBER: https://www.linkedin.com/feed/update/urn:li:activity:7204519944749854721

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➔ IIT: https://www.linkedin.com/feed/update/urn:li:activity:7207071738143117312

More interviews will be recorded during the next General Assembly, involving different partners of the project. The idea is to focus on the people behind the project, allowing them to explain their role and their vision for the EMPOWER project.

### 4.3 Events – Participation

The EMPOWER messages will be physically distributed in a large set of events. The kind of messages will be adapted with regards to the targeted audiences and their interest on the EMPOWER project. For example, in public events a poster could be proposed, while in a scientific or technical event a flyer or newsletter is more appropriate. On the other hand, in scientific conferences the research results derived from the project should be disserted.

EMPOWER partners will be proactive in providing information about the potential benefits of the solution during its development phase. Relevant articles and publications will be prepared for all key stakeholder communities. Articles and publications will be produced for journals and targeted specialist media by all partners. A wide variety of communication channels will be used to maximize coverage; press releases (Table 11) will be issued following the latest requirements of the EC.

Table 11: Press releases

| Object | Targeted community | Key Performance Indicator | KPI Target Value | Reach level |
|---|---|---|---|---|
| **Press releases** | Industrial companies, SMEs, general public | Number of press releases issued | One press release per year | National |

### 4.4 Communication activity plan

#### 4.4.1 Scheduling and management

Active communication action will start at the beginning of the project and will continue during its entire life. To prepare the communication at the right time, a calendar of important moment and step of the project as well as events and attendance has been created ad will be updated collaboratively with the consortium.

After the end of the project, the website will be maintained as a static webpage. A specific brochure will be prepared at the end of the project to support the consortium members in continuing the promotion of their results and the common results of EMPOWER after the end of the project.

The major activities scheduled for the project duration are summarized in Table 12:

Table 12: Communication scheduling

| Type | Description | Timeline | Status |
|---|---|---|---|
| **Logo** | The logo has been designed and will be used in all documents and publications of the project | M1 | Completed |
| **Website** | The online presence of EMPOWER | M6 | Completed |
| **LinkedIn Account** | A LinkedIn Account has been created for engaging various stakeholders in project-based discussions | M2 | Completed |
| **EMPOWER deliverable template** | Template for the project deliverables created | M3 | Completed |
| **EMPOWER presentation template** | Template to be used for the project presentations created | M5 | Completed |

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| | | | |
|---|---|---|---|
| **Project brochure – initial version** | Designing of a brochure for promoting the project in various events | M5 | Completed |
| **Press Releases** | Press Releases produced accompanied by the logo in printable resolution and 1-2 characteristic project photos | M5 – M48 | Ongoing |
| **Publications** | A significant number of publications are expected both in conferences and in journals | M5 – M48 | Continuous |
| **Events' participation** | Participation to events (i.e. conferences, workshops, trade fairs& exhibitions) in order to raise awareness about EMPOWER and disseminate the project's results | M1 – M48 | Continuous |
| **Workshop organization** | Organization of workshop(s) | First M9 - M24<br>Second M25 – M48 | Pending |
| **Mailing lists and e-Bulletin** | Diffusing project news, achievements, and events, in the form of an electronic email bulletin | M5 – M48 | Continuous |
| **Infographics** | Creating infographics depicting the project's concepts (during the first year of the project) and results (during the more advanced project's phase when strong results are already available) | M5 – M48 | Ongoing, first infographic (roll-up) completed |
| **Images** | Producing and collecting images from the project's events and meetings to be used for project dissemination/communication | M1 – M48 | Continuous |
| **Videos** | Producing of video(s) presenting the work done in the project | M6 – M48 | Continuous |

The communication management during the life of the project will be organized with a set of ordered actions presented below: (1) Initialisation, (2) Execution, (3) Monitoring & Reviewing, (4) Reporting and (5) Closing. A loop will be organized between step 2 and step 4.

**Initialisation**

This step consists mainly in issuing this document, defining the communication strategy and goals, appointing the responsible management team, and designing the basic documents.

*Appoint board / Press office*

An Exploitation Board, responsible for the planning and execution of the dissemination and exploitation activities within EMPOWER, will be organized and a Press Officer will be nominated. The Press Officer will be responsible for the revision of all communication and dissemination elements to ensure the general guidelines defined in this document are properly followed.

*Prepare basic material*

At the beginning of the project, a project leaflet (introductory brochure) and a flyer will be issued to ensure efficient communication prior to the first results of the project. Furthermore, the poster will be ready for communicating EMPOWER activities inside conferences and public events.

Potential communication and dissemination targets will be kept in a calendar that will be created and maintained, containing publication deadlines, national and international conference dates, exhibitions and other events.

**Execution**

Once the full communication strategy is defined with the targeted audiences, events, locations and dates, the execution will follow the plan:

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1. Prepare communication content;
2. Prepare communication support;
3. Validate through (i) the Scientific and Technical Advisory Board, (ii) the Ethical Advisory Board or (iii) the Security Advisory Board, if applicable;
4. Diffuse the communication and, if possible, obtain feedback;
5. After the communication act, archive the communication for traceability and potential reuse.

**Monitoring & Reviewing**

This step includes monitoring and analysing the communication activities performed during specified periods to ensure that the EMPOWER partners will reach their communication goals at the end of the project. The different indicators will be computed and analysed regarding the targets of the communication activities within the specified period.

In case that a difficulty is identified that prevents the consortium to reach the desired target that is set in the communication plan, then the communication plan will be updated appropriately to increase the effort on this failing dimension. Moreover, it should be noted that the lists of communication targets (people and events) will be reviewed and updated periodically to include the most recent and worth attending events/conferences (e.g., identify the dates on the conferences for the following year or add new relevant conferences).

**Reporting**

The last step in the loop of the communication process is reporting. In this step, a report shall be created with all the information from the previous monitoring phases. This reporting has two targets: the consortium itself and European Commission. For each reporting period, it is expected that the provided reviews regarding the EMPOWER dissemination and communication strategy and process will be used to revise the strategy for the next reporting period.

### 4.4.2 Communication basic rules

**Writing rules**

- Use British English;
- In case the communication is done in a foreign language, always add an English abstract;
- Always use EMPOWER with capitalized letters;
- All documents have to contain all the partner logo.

**References and disclaimer rules**

- Check with Dissemination & Exploitation board;
- Follow communication guides;
- Cite European project: “This project has received funding from the European Union HE Programme for research, technological development and demonstration under the Grant Agreement No. 101096028”;
- All dissemination materials will include the European Union emblem. For publications in journals and articles in the press, the HE logo as well as the emblem of the European Union can’t be included. However, the reference of the funding received from the European Union will be integrated in the acknowledgement;
- Insert the following disclaimer in each document: “The contents of this document and the view expressed in the publication are the sole responsibility of the author and under no circumstances can be regarded as reflecting the position of the European Union”.

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# 5 Exploitation strategy

Making concrete use of the project results is a key aspect to deliver the benefits and ultimate impact of the EMPOWER Innovation Action. Throughout the project a detailed plan for the exploitation of the project results will be developed, to support the European economic growth and provide a solid base for new business opportunities. This plan is geared on: (1) valorisation of the common elements across the business strategies of the involved partners, and (2) IPR management.

This deliverable focuses on delivering a preliminary exploitation strategy, whereas the final exploitation strategy for the technology will be finalized later in D8.2, D8.3 and D8.4 and will describe the targeted market(s), the estimated market size in Europe and overseas, the user and customer needs, and will demonstrate how the EMPOWER technology will match these in a cost-effective manner, enhancing the competitive advantage of the future EU industry of the HDV industry.

## 5.1 Preliminary exploitation plan

A complete exploitation strategy should describe the targeted market(s), the estimated market size in Europe and overseas, the user and customer needs, and demonstrate how the EMPOWER technology will match these in a cost-effective manner, enhancing the competitive advantage of the future EU industry of the HDV industry. However, many inputs required for this analysis can be estimated with an adequate accuracy only at a later stage of the project. Therefore, in this deliverable a preliminary plan has been set up to identify the main exploitation routes for EMPOWER.

The primary route for exploitation of the project results is through direct sales of the developed Zero-Emission (ZE) trucks by IVECO, with the systems developed in EMPOWER.

The sales of ZE HDVs belonging to VECTO group 4,5, 9 and 10 (excluding buses and vocational vehicles) is expected to steadily increase from the current limited share to around 3.5 % in 2027 and up to 26 % in 2030 [3]. In absolute numbers this corresponds to approximately 16,000 ZE HDV sales in 2027, and 95,000 ZE HDVs in 2030. This cumulates to a total of around 210,000 ZE HDVs sold in Europe until 2030.

Based on IVECO's market share of around 6 % in the heavy-duty market segment [4], the total sales of IVECO ZE HDVs could rise to around 1,000 units in 2027 and up to 10,000 units in the early 2030s. These numbers can be confirmed and even exceeded by the commitment of IVECO as one of the six OEMs participating in the joint target of deploying up to 100,000 ZE HDVs in Europe from 2030 onwards [5]. IVECO also stated to be able to reach sales numbers in the range of 1000 ZE HDVs per year in the second half of the 2020s and then rapidly growing to 10,000 ZE HDVs per year [6].

After the successful end of EMPOWER at the end of 2027, the vehicle technologies developed will be at TRL 8. The transition to TRL 9 and the preparation of all the facilities for mass production will take about one to two years and will happen in a "technology scale up and production preparation" phase. Subsequently, the revised TRL 9 EMPOWER vehicles are expected to enter the market in the year 2029.

Given that about 20 % of all IVECO trucks sold belong to the VECTO vehicle group 9 (about 7 % in the FCEV long-haul class and approx. 13 % in the BEV regional distribution class) [4] , around 670 group 9 EMPOWER vehicles are expected to be sold at the beginning of their market entry in 2029, rising to approx. 4,600 in the year 2040.

As the EMPOWER concept is designed in a modular and flexible way, it can be re-used, transferred, and integrated into other vehicle types. Assuming that also other concepts will be developed at IVECO, it is estimated that about 50 % of the remaining HDV sales of IVECO belonging to VECTO vehicle groups 4, 5 and 10 can be equipped with the EMPOWER technology, summing up to a total sales potential of the

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EMPOWER technology of roughly 2,000 vehicles per year at the time of market entry in 2029 up to 12,000 - 14,000 vehicles per year from 2035 onwards.

This also impacts the total fuel consumption and CO2 emissions of the transport sector. Assuming an average Diesel consumption of 30 litres/100 km, this accumulates to about 3 bn litres of Diesel that could be saved in the years 2029 to 2040. The accumulated saved CO2 emissions of the subgroups 4, 5, 9, and 10 can be estimated to roughly 9 million tCO2 in the same time frame.

The preliminary exploitation plan, the exploitable results (ER) of the project partners and the "road-to-market" of EMPOWER are summarized in Figure 7 and Table 13.

Another exploitation route is through licensing EMPOWER IPR to third parties (e.g. the HVI or developed protocols). In the consortium agreement IPR are handled and all the related points are clarified. Related possible patent applications will be reviewed by the rights distribution will be organised in line with the "Consortium Agreement".

For research partners, the main exploitation scenario will be consultancy and research contracts.

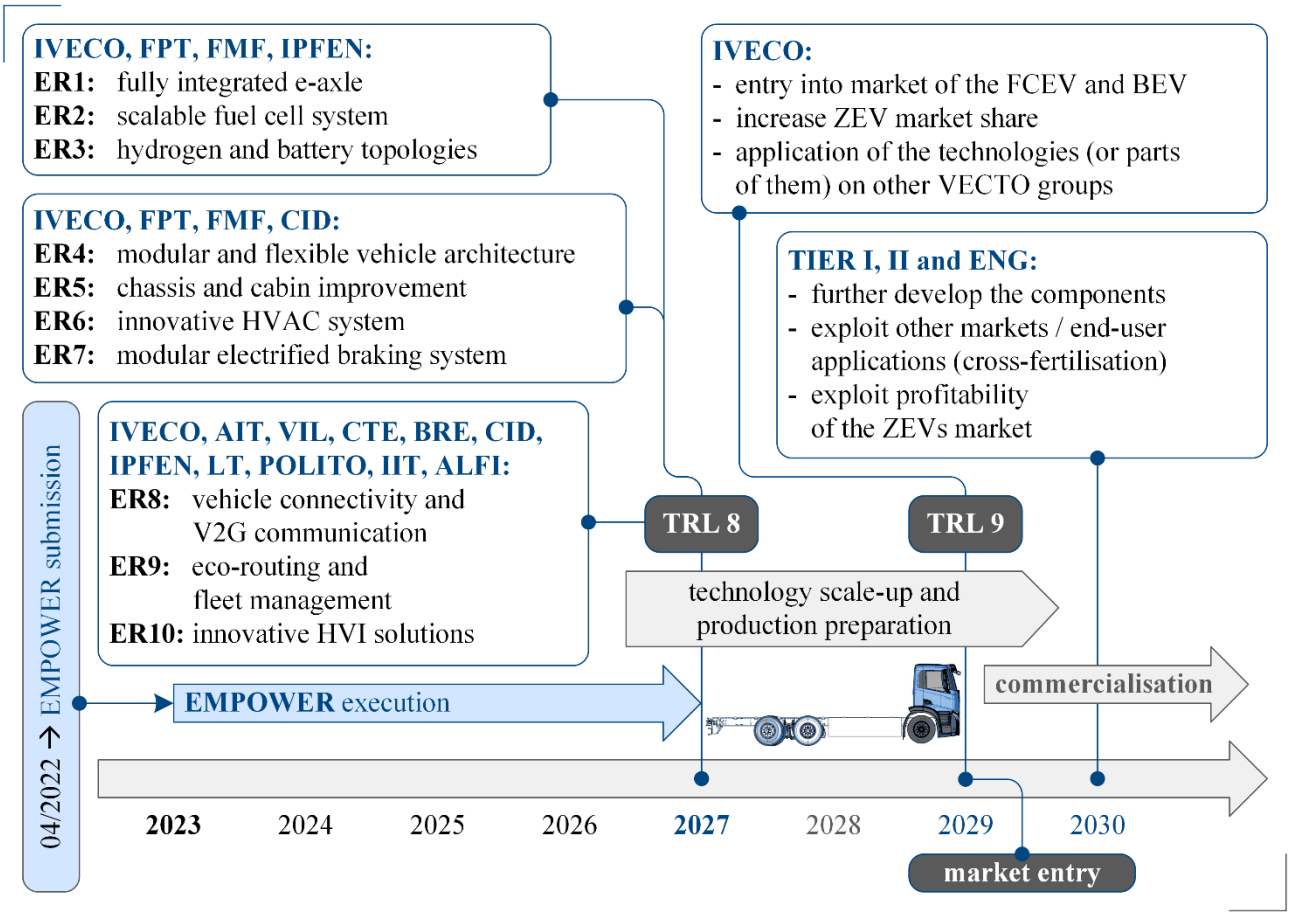


Figure 7: Preliminary exploitation plan, "road-to-market" timeline and exploitable results (ER) per EMPOWER partner (from the proposal).

Table 13: EMPOWER Exploitable Results

| # | Title | Description |
|---|---|---|

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| | | |
|---|---|---|
| **ER1** | Fully integrated e-axle | The efficiency improvements in the modular e-axle design will lead to extended driving range on a single battery charge, compared to the current average of 250 km for commercial vehicle applications. The design is based on a unique suspension that can accept a flexible design (one or two e-axles with different configurations). |
| **ER2** | Scalable fuel cell system | The fuel cell is the central pillar of the long-haul demonstrator, with the design required for high-duty cycle capabilities and fast refuelling. A modular approach will be considered for the fuel cell system to deliver the target power with two systems to allow for better reusability and flexibility on products line-up definition. Advanced control and monitoring, and AI-enhanced diagnostics will be developed to meet the EMPOWER durability goal of the stack. |
| **ER3** | Hydrogen and battery topologies | Three high-flow capable H2 refueling stations will be available for the demonstration phase. A communication between the vehicle and the refuelling infrastructure will be implemented to efficiently control the cooling system of the HRS.<br>For the estimated 600 kWh battery of the BEV demonstrator, improvements to the Battery Management System (BMS) will be developed using advanced maintenance techniques based on cloud-based machine learning, which will enhance battery pack life without a perceived loss of functionality. |
| **ER4** | Modular and flexible vehicle architecture | A modular and flexible vehicle architecture for HDVs will be developed. It can serve varying mission demands in terms of range, power, and refuelling/recharging requirements within one vehicle platform. This is tackled via different vehicle modules that can be efficiently combined by clustering different modules including cabin modules, frame modules, energy storage modules, e-axle/axle modules, etc. |
| **ER5** | Chassis and cabin improvement | An improved cabin and chassis design with a special focus on modularity will be developed. Different vehicle modules as the Chassis module, the Frame Module, the Energy Storage Module, the Powertrain Module will be designed and optimised. Other actions include the possible relocation of some chassis groups to get a better weight distribution, optimization of structural components for weigh reduction, distribution on axles, re-sizing of the coolant system, structural and functional optimization between systems and use of light-weight materials (aluminium mainly) as well as the fifth wheel topology for weight reduction |
| **ER6** | Innovative HVAC system | The thermal energy will be recuperated using a dehumidification unit and returned to the thermal cycle. This Is expected to reduce the energy losses by up to 75 %. |
| **ER7** | Modular electrified braking system | An electrified distributed braking system will be implemented to recuperate a part of the kinetic energy and transforms it into electric energy, to be stored in the battery pack. The extension of the vehicle operating range and the improving driving performance will be demonstrated. |
| **ER8** | Vehicle connectivity and V2G Communication | Protocols and software for connectivity and V2G communication will be developed for refuelling/charge planning and grid load management, and fleet management system. |
| **ER9** | Eco-routing and fleet management | HDV fleet optimized management and scheduling will ensure that each vehicle reaches its destination on time at lowest cost and environmental impact, as well as to adhere to a preventive maintenance checklist and hence be in good condition to complete its missions. |
| **ER10** | Innovative HVI solutions | EMPOWER HVI will display and control the vehicle functionalities (such as the remaining driving range, eco-driving assistance, energy flows and multimedia interface), as well as the Human Machine Interface (HMI), dedicated to the thermal conditioning of the driver cabin. It will be flexible, |

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| | | |
|---|---|---|
| | | customizable, and scalable to different applications to collect all the information about vehicle performance and efficiency. The HVI system will also communicate with the driver, as well as with the vehicle and fleet management to guarantee a high level of HDV transport sustainability. |

## 5.2 IPR Management

IPR are central to the exploitation of the EMPOWER results, and their proper management will be a major factor for the competitive strength of the project. A dedicated IPR manager will assist the consortium supporting IP protection and creation throughout the project's lifetime. The IPR manager will: (1) map the consortium background IPR, also reported in the consortium agreement, (2) monitor the IPR as they develop during the project activities, reporting an update IPR status at the interim reporting periods; (3) identify potential for new IP and patents, supporting, where needed, the inventors in the patent application process; and (4) report a final IPR status in the final project report. The IPR management activities are an integral part of the EMPOWER exploitation activities and will be finalized and reported in D8.2, D8.3 and D8.4.

For each result generated in EMPOWER, a decision will be made whether it either needs to be protected for exploitation or is suitable for dissemination. This will take place as part of the continuous monitoring and reporting and will be implemented by an IPR manager assigned by the coordinator. Project generated knowledge of commercial interest must be safeguarded and protected for exploitation by the owner(s).

IPR will be handled in line with general EC policies regarding ownership, exploitation rights, confidentiality, commercial utilisation of results, availability of the information, deliverables etc. to other EU funded projects and disclaiming rules. The primary approach for IP management in EMPOWER will be to maximise knowledge exchange and its project results impact. The existing and background IP brought by project partners will be available for use but will remain the property of the original owner. Foreground IP developed during the project will, in principle, be owned by the partner(s) who developed it. If the protection of foreground IP increases the scale of potential exploitation (e.g. fostering additional private investments), the IP will be protected. However, if the consortium considers that the publication of the foreground will enhance potential exploitation, the IP will be made freely available to all those interested in exploring it.

These decisions will be made based on a careful quantitative and qualitative analysis. When an evident decision is not possible, the option will be to publish the information through free-access sources. The decision to publish IP will be made by the EMPOWER consortium, and the strategy for exploitation of the results will vary on a case-by-case basis, ranging from free access to licensing. Ownership agreements will be set up as necessary to proceed with future commercialisation. Analysis of background and foreground IP will be sought throughout the project. EMPOWER will generate a constant flux of foreground IP from project partners, and each partner's contribution to the foreground IP will be recorded.

This will take place based on the confidentiality, access rights and background IP defined in the Consortium Agreement (based on the DESCA model), signed by each partner, and the ongoing IPR management. Fair and reasonable conditions for exploitation will be adopted with a view to enabling rapid and broad exploitation of the results.

# 6 Conclusions

This deliverable presented the EMPOWER dissemination, exploitation, and communication plan, an internal instrument to provide a consistent framework for all activities needed to make public, promote and sustain the concepts, achievements, as well as technical and knowledge results developed within the project.

The consortium recognizes that dissemination and communication activities are an essential and pervasive activity throughout the project's life and integrated within all its work packages. Therefore, the present Plan

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illustrated in clear terms the rationale behind the strategy and clarified all dimensions and tools necessary to communicate the core messages and results of the project in a very effective and comprehensive way.

Various activities will be realized throughout the project's lifetime to enable EMPOWER achieve its purposes. Promotion of the project online and via participation to the events, organization of the workshops, several scientific disseminations in journals and conferences, high-quality promotional material as well as collaboration with other projects and initiatives constitute some of the main actions towards the aforementioned purposes. To measure the achieved impact of the proposed strategy and plan several indicators have been recognized and reported.

The dissemination strategy reported in this deliverable is intended to be a guide on how to increase awareness, interest, and acceptance of the EMPOWER project's outcomes within the target audience. The present Plan will act as a handbook for every project partner to perform their dissemination activities as it will list all stakeholders, communication channels, dissemination activities and corresponding key performance indicators. It also addresses to the European Commission that will be requested to assist in the realization of this plan if needed. The EMPOWER Consortium recommends a periodic review of this document to ensure it includes up-to-date contents and opportunities for disseminating project information and results. In addition, as strategies are evaluated, updates should be made as needed.

A preliminary exploitation strategy of the project results is also outlined, including IPR, to support the European economic growth and provide a solid base for new business opportunities. The final exploitation strategy for the technology will be finalized later in D8.2, D8.3 and D8.4 and will describe the targeted market(s), the estimated market size in Europe and overseas, the user and customer needs, and will demonstrate how the EMPOWER technology will match these in a cost-effective manner, enhancing the competitive advantage of the future EU industry of the HDV industry.

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# 8 Acknowledgment


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## Project Partners:

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| 2 | **IVECO** | IVECO SPA | IT |
| 3 | **FPT** | FPT Industrial SPA | IT |
| 4 | **IFPEN** | IFP Énergies nouvelles | FR |
| 5 | **POLITO** | Politecnico di Torino | IT |
| 6 | **LT** | Lead Tech SRL | IT |
| 7 | **VIL** | Villinger GmbH | AT |
| 8 | **CID** | Fundación CIDETEC | ES |
| 9 | **CTE** | CT Engineering GmbH | AT |
| 10 | **GLO** | GRUBER Logistics S.p.A. | IT |
| 11 | **BRE** | BREMBO SPA | IT |
| 12 | **IIT** | Istituto per Innovazioni Tecnologiche Bolzano S.c.a.r.l. | IT |
| 13 | **ALFI** | Air Liquide | FR |
| 14 | **FMF** | FPT Motorenforschung AG | CH |